

Claims

We claim:

- 5 1. A method comprising the steps of:
 - (a) identifying a plurality of data fields;
 - (b) transmitting a data symbol comprising a first set of data;
 - (c) maintaining a data field from which the data symbol was transmitted;
 - 10 (d) receiving an acknowledgement symbol comprising a second set of data;
 - (e) comparing the first set of data to the second set of data; and
 - (f) if the first set of data is equivalent to the second set of data, repeating steps b-f until data transmission is complete; otherwise, temporarily
 - 15 suspending data transmission.
2. The method of claim 1 further comprising the step of maintaining the data field for a predetermined period of time when power is removed and subsequently re-applied.
- 20 3. The method of claim 1 further comprising the step of defaulting to a first data field when power is removed and subsequently re-applied.
4. The method of claim 1 further comprising the steps of, if the first set of
25 data is not equivalent to the second set of data:
 - receiving a request for devices temporarily suspended in a given data field to resume data transmission;
 - if the data field that was maintained is equivalent to the given data field identified in the request, repeating steps b-f, starting with a first symbol in the data
30 field that was maintained; and

if the data field is not equivalent to the given data field identified in the request, continuing to temporarily suspend data transmission.

- 5 6. The method of claim 1 further comprising the step of becoming inactive when data transmission is complete.
- 10 6. The method of claim 1 further comprising the steps of:
initializing to a first data field upon power-up;
receiving a request for devices in a given data field to transmit data; and
becoming active only if the first data field is equivalent to the given data field identified in the request.
- 15 7. A method comprising the steps of:
(a) transmitting a request to activate a set of tags in a first state;
(b) receiving a set of data symbols;
(c) in response to receiving the set of data symbols, transmitting an acknowledgement symbol;
(d) continuing to transmit an acknowledgement symbol in response to each set of data symbols received, and when a predetermined number of sets of data symbols is received, repeating steps a-d; and
20 (e) when a set of data symbols is not received in step b, transmitting a second request to activate a set of tags in a second state, wherein the first state is different from the second state.
- 25 8. The method of claim 7 further comprising the step of, after the step of transmitting the second request, looping through steps b-e.
- 30 9. A method comprising the steps of:
transmitting a request to activate a set of tags in a first state;
receiving a set of data symbols;

in response to receiving the set of data symbols, transmitting an acknowledgement symbol;

continuing to transmit an acknowledgement symbol in response to each subsequent set of data symbols received;

5 transmitting at least a second request to activate a set of tags in a second state, wherein the first state is different from the second state.

10. The method of claim 9 further comprising the step of transmitting an excitation signal.

10 11. The method of claim 9 further comprising the step of copying at least a portion of data represented by each acknowledgement symbol into a storage device.

15 12. The method of claim 9 further comprising the steps of:
copying at least a portion of data represented by each acknowledgement symbol into a first storage device; and
when the first storage device contains a predetermined amount of data,
copying the predetermined amount of data into a first location of a second storage
20 device.

13. The method of claim 10 further comprising the step of clearing at least a portion of the first storage device upon transmitting a request to activate a group of radio frequency identification tags in a given state.

25 14. The method of claim 10 further comprising the step of copying at least a portion of data represented by each acknowledgement symbol transmitted after the request into the portion of the first storage device that was cleared.

30 15. A method comprising the steps of:

- (a) identifying a plurality of data fields;
 - (b) transmitting a request;
 - (c) transmitting a data symbol;
 - (d) maintaining a data field from which the data symbol was
5 transmitted; and
 - (e) if the data symbol is acknowledged, repeating steps c-e; otherwise,
returning to a beginning of a data field and repeating steps b-e.
16. A method comprising the steps of:
 - 10 (a) identifying a plurality of data fields, each data field having a set of
field symbols and each field symbol having a first set of data;
 - (b) receiving a data symbol comprising a second set of data;
 - (c) identifying a field symbol corresponding to the data symbol in a
location;
 - 15 (d) if the first set of data of the field symbol is equivalent to the second
set of data of the data symbol, transmitting an acknowledgement symbol and
repeating steps b-d; otherwise, temporarily suspending data transmission and
returning to a beginning of the data field containing the field symbol
corresponding to the data symbol in the location.
- 20 17. A method comprising the steps of:
 - (a) identifying a plurality of data fields;
 - (b) transmitting a request;
 - (c) transmitting a data symbol corresponding to a position in a data
25 field;
 - (d) maintaining the data field from which the data symbol was
transmitted;
 - (e) if the data symbol is acknowledged, repeating steps c-f; otherwise,
transmitting a second data symbol corresponding to the position in the data field;
 - 30 and

(f) if the second data symbol is acknowledged, repeating steps c-f;
otherwise, returning to a beginning of the data field and repeating steps b-f.

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